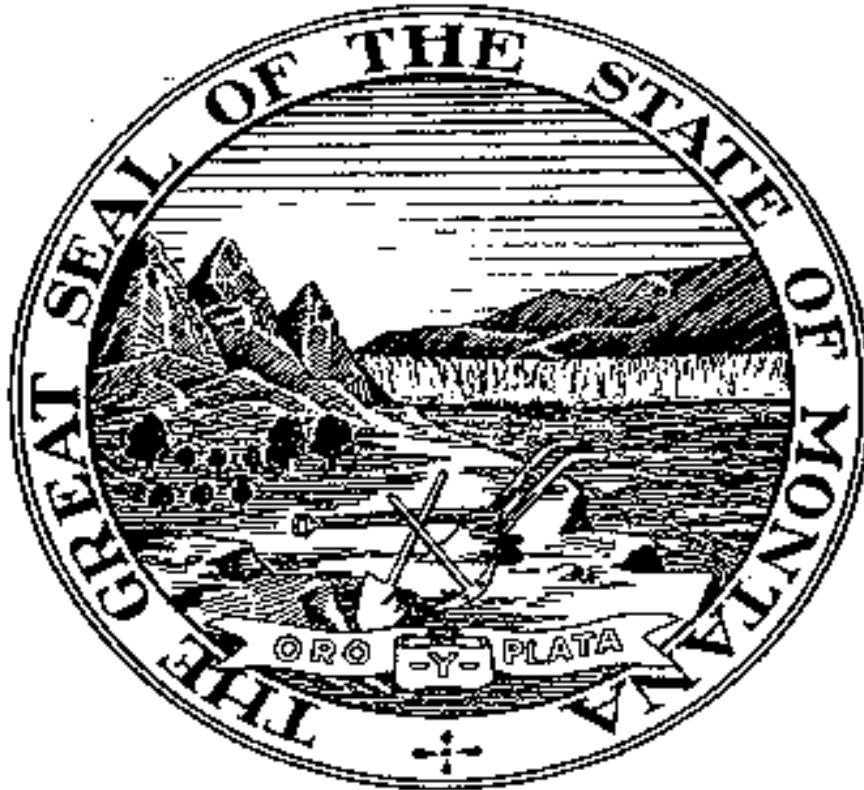


Motor Vehicle Safety

Occupational Safety & Health Bureau



Montana Department of Labor & Industry

Prepared for Montana Employers
by the

Occupational Safety & Health Bureau
Department of Labor & Industry
P.O. Box 1728
Helena, Montana 59624-1728
(406) 444-6401

Motor Vehicle Safety

Introduction

Traffic-related motor vehicle accidents are the leading cause of work-related fatalities in the United States. Three workers are killed every day — more than a thousand each year — while driving, riding in, or working around motor vehicles in traffic, according to the the National Institute for Occupational Safety & Health (NIOSH).

By occupation, the largest number of vehicle deaths occur among truck drivers, but every worker whose job-duties include driving a motor vehicle are at risk. Employers should develop and enforce a motor vehicle safety policy if they require workers to operate a motor vehicle on the job. A motor vehicle safety policy should be made a part of every safety program.

NIOSH recommends that businesses assess their past experience with motor vehicle safety to identify appropriate measures for preventing traffic-related death and injury among their employees. In general, effective steps may include:

- Establishing and enforcing a written policy requiring drivers and passengers always to use seat belts.
- Providing a seat belt for the driver and each passenger in each employer-provided vehicle, and limiting the number of passengers to the number of seat belts.
- Conducting driver's license background checks on prospective employee drivers before they are hired.
- Ensuring that drivers comply with designated speed limits, and prohibiting workers from driving on the job when they are fatigued.
- Ensuring that employees in construction and maintenance zones wear high-visibility clothing and use appropriate barriers and traffic control.
- Training drivers in safe driving practices and proper use of vehicle safety features. This may include sending employees to defensive driving courses.
- Establishing written procedures for proper inspection and maintenance of vehicles.
- Equipping new vehicles with appropriate occupant protection such as seat belts, and where feasible and appropriate, with other safety features such as anti-lock brakes.
- Considering the adoption of U.S. Department of Transportation regulations for commercial motor carriers as part of the company's vehicle safety program.

- Implement a no tolerance policy for drinking and driving.

I. Recommendations for safe driving

A. Tips for Drivers

Use seat belts at all times. Let other workers ride with you only when the vehicle has a seat belt for each person.

Always drive within the speed limit.

Do not drive if you are fatigued

Be familiar with the maintenance procedures for all vehicle systems.

Take into consideration weather and road condition when driving.

Always scan the road around you. Even if you are driving safe other drivers around you might not be.

Take advantage of any drivers training courses offered by your employer.

B. Tips for Employers

Conduct driver's license background checks before hiring drivers.

Provide vehicles with seat belts for the driver and every passenger, and require their use.

Establish schedules that allow drivers enough time to obey speed limits and that limit drivers' hours of service according to regulations.

Train drivers in safe practices and the proper use of vehicle safety features.

Take advantage of all available drivers training courses or safety information. Offer defensive driving courses to your employees.

Establish procedures to ensure proper maintenance of all vehicle systems. Develop a vehicle pre-trip inspection procedure.

Make sure that newly purchased vehicles are equipped with appropriate occupant protection and other safety features.

Adopt the U.S. Department of Transportation regulations for commercial motor carriers as part of your motor vehicle safety program.

Strictly, enforce your motor vehicle safety program.

Resources

Listed below are several resources for safety & health information and standards.

Defensive driving courses are offered by:

The Montana Safety Council

Phone Number: 888-547-2332; (406) 582-1252

Fax: (406) 582-0073

Other resources

Montana Department of Justice

Motor Vehicle Division

Scott Hart Building

P.O. Box 201430

303 N. Roberts

Helena, MT 59620-1430

Phone: (406) 444-1773

www.doj.mt.gov

U.S. Department of Labor

Occupational Safety & Health Administration, (OSHA).

Public Affairs Office- Room 3647

200 Constitution Ave.

Ashington, D.C. 20210.

Phone: 1-202-693-1999.

www.osha.gov

National Institute for Occupational Safety and Health, (NIOSH).

Department of Health and Human Services,

200 Independence Ave.

SW 317B,

Washington, DC 20201.

Phone: 1-800-356-4674, 1-800-35-NIOSH

www.niosh.gov

Network of Employers for Traffic Safety

1900 L St. NW, Suite 705

Washington D.C. 20036

Phone: (202) 452-6005

www.trafficsafety.org

Automobile Safety Foundation

P.O. Box 12183

La Jolla, CA 92039

www.cyber.net/asf

American Seat Belt Council

Questions & Answers

MAKE IT CLICK – SEAT BELTS SAVE LIVES

- Q. Are safety belts effective?
- A. Approximately 14,000 - 18,000 lives could be saved annually if all passenger car occupants used safety belts at all times. The National Highway Traffic Safety Administration estimates that safety belts reduce the chances of serious or fatal injury by 50 to 65%. Society would also be saved millions of dollars. (The National Safety Council estimates that each motor vehicle death costs society \$190,000 -- including the cost of insurance administration, medical expenses and lost wages.)
- Q. I don't wear my safety belt all the time, just on long trips and on expressways; isn't that enough?
- A. No! Most crashes (over 80%) occur at speeds under 40 mph. Fatalities involving non-belted occupants have been recorded at as low as 12 mph (about the speed you would be driving in a parking lot.) About 70% of all accidents occur within 25 miles of home, probably because most people drive locally far more than they drive long distances. Consequently, the chances of being in an accident closer to home are greater. So buckle-up before driving to your shopping center, just as you would for a long trip.
- Q. Do I need a lap and shoulder belt?
- A. A lap belt will protect you from serious injury. But a shoulder belt provides important additional protection. During a crash, a shoulder belt keeps your head and chest from striking the steering wheel, dashboard and windshield. Using a lap and shoulder belt offers you the best possible protection in the event of a collision.
- Q. How do safety belts work?
- A. A fastened safety belt distributes the force of a collision over the occupant's hips and shoulders -- the parts of the body that can best withstand the force. Your belt will also stretch a bit to absorb some of the impact force and, most importantly, stop your body from striking the hard, interior surface of the car or another person.

A car that is traveling at 30 mph will come to a stop within 1/10 second after a collision. Any unbelted occupants will continue to move forward, inside the vehicle, at 30 mph. One-fifth second after the car has come to a stop, the unbelted occupants will slam into some part of the car or another passenger -- this constitutes the second collision.

Impact during this second collision (at 30 mph) is equivalent to a person falling from a height of several stories. Occupants will not have the time nor the strength to "brace" themselves. (At 30 mph, an occupant strikes the vehicle's interior with a force of several thousand pounds.) Second collisions with steering wheels and windshields account for 38% of the deaths in auto crashes.

Q. Who should wear safety belts?

A. Everyone.

Children under four years of age and weighing less than 40 lbs. Should ride in a child safety seat which meets or exceeds federal standards. Never allow passengers to hold an infant or child in their arms. An unrestrained infant will be thrown out of an adult's arms; the adult, in being forced forward, can then crush the infant. For additional protection, small children in child safety seats and older children who can use standard safety belts should ride in the rear seat of the car. Pregnant women should wear their safety belt low on the pelvis. Both a shoulder and lap belt should be used to provide an extra safety factor. Isn't it safer to be thrown clear in an accident?

A. If thrown from a vehicle, your chances of being killed are 25 times greater. The force of a collision can fling you as much as 150 feet (15 car lengths). "Thrown clear" is a misnomer; leaving the vehicle involves crashing through the windshield or being thrown out a door. Once outside, additional dangers include being scraped along the ground, being crushed by your own vehicle or being thrown into a roadside object. The safest place in the event of a crash is inside the vehicle, protected by a fastened safety belt.

Q. Wouldn't a fastened safety belt delay an attempt to escape from a burning or submerged car?

A. Less than 1/2 of 1% of all injury-producing collisions involve some fire or submersion!! In such situations, your first concern is to stay conscious, so that you can escape. A fastened safety belt will greatly minimize or eliminate potential injuries so that you are capable of escaping.

Q. What can be done to avoid the drunk driver?

A. First, make sure everyone in the car is wearing a safety belt or buckled into a child safety seat before you start. This is the ultimate last line of defense in case the drunk driver crashes into you.

Also, become familiar with the cues for detecting drunk drivers at night researched by the National Highway Traffic Safety Administration. These visual cues were documented in field studies involving more than 4,600 patrol stops. They were developed to assist law enforcement officers and can help you avoid the drunk driver.

Clues for detecting drunk drivers at night: *

1. Turning with wide radius.
2. Straddling center of lane marker.
3. Appearing to be drunk.
4. Almost striking an object or vehicle
5. Weaving
6. Driving on other than designated roadway.
7. Swerving.
8. Speed more than 10 mph below limit.
9. Stopping without cause in a traffic lane.
10. Following too closely.
11. Drifting.
12. Tires on center line or lane marker.
13. Braking erratically.
14. Driving into opposing or crossing traffic.
15. Signaling inconsistent with driving actions.
16. Slow response to traffic signals.
17. Stopping inappropriately (other than in lane).
18. Accelerating or decelerating rapidly.
19. Headlights off.

Q. What is Defensive Driving?

A. Driving to prevent accidents in spite of the incorrect actions of others and adverse conditions.

*Special thanks to the American Seat Belt Council for some of the above information.

Appendix 2.

PRE-TRIP VEHICLE INSPECTION PROCEDURE FOR TRACTOR/TRAILORS

HAVE ALL DEFECTS CORRECTED BEFORE DEPARTURE

1. _____ Approaching vehicle note general condition. Look for leakage of water, fuel or lubricants under vehicle.
2. _____ Under hood check water and crankcase levels. Check fan and compressor belts for cracks and excessive slack and wear. Note general condition of engine space.
3. _____ Start engine and set at fast idle for warm-up. Check for abnormal engine noise. Check gauges for normal readings (pilot lights, if equipped). ALOW AIR≅ warning should operate if air pressure is below 60 pounds. Anti-lock warning light should light briefly and then go out (vehicles with 121 air brakes and operable anti-lock).
4. _____ Check emergency equipment, horn(s), and windshield wipers. Turn on all lights including 4-way flasher switch for turn signals. Check steering wheel action.
5. _____ Leave cab to check headlights and turn signals. Switch headlights on and check both beams, then turn off headlights only. Leave all other lights on.
6. _____ Check front clearance and identification lights.
7. _____ Check left and right front wheels, tires, lugs or studs. Check for leaks around hubs.
8. _____ Check right side of cab, door, mirrors, etc. and check lights and reflectors along right side as inspection progresses.
9. _____ Check right rear tractor tires, wheels, lugs or studs. Note any thrown lubricant.
10. _____ Check trailer light and brake lines for secure connections. Be sure manual petcocks are open. Be sure lines are properly secured to prevent entangling or chafing.
11. _____ Check hook-up, fifth-wheel, jaws, release lever on tractor-trailer, pintle hook, towbar, safety chains, converter gear on full-trailer unit.
12. _____ Check right trailer tires, wheels, lugs or studs. Check for thrown lubricant.
13. _____ Check rear of body, mudflaps, rear lights (clearance and identification, stop, tail, turn signals), rear reflectors, rear end protection.

14. _____ Check left trailer tires, wheels, lugs or studs. Check lights and reflectors on left side as inspection progresses.
15. _____ Check left rear tractor tires, wheels, lugs or studs. Check for thrown lubrication.
16. _____ Re-enter cab. Re-check all gauges. Air pressure should be at maximum.
17. _____ Check parking brake.
18. _____ Check brakes and stoplights. With fully charged system, check air brakes as follows:
 - a) Older tractors (pre-121 bakes)
 1. Put trailer air supply valve in ANormal≡. Use treadle valve to apply and release.
 2. Release treadle valve and put trailer air supply valve in AEmergency≡. Trailer brakes should come on and stay on. Return trailer air supply valve to ANormal≡ and fan down brakes. Recheck for activation of ALow Air≡ warning at 60 PSI. Between 45 and 20 PSI, the trailer brakes should come on.
 - b) New tractors (equipped with A121" brakes) WARNING - Because many of the following checks must be performed with parking brake(s) released, driver must remain in vehicle ready to re-apply parking brakes if necessary.
 1. Release all parking brakes.
 2. Push trailer air supply valve to ASupply≡. Use treadle valve to apply and release brakes.
 3. Release treadle valve. Place tractor park valve in APark≡. Tractor brakes, only, should apply.
 4. Apply tractor-trailer park valve. Trailer brakes should apply.
 5. Release all parking brakes and turn off engine. Use treadle valve to fan down brakes. At 60 PSI on primary reservoir, ALow Air≡ warning should operate and pressure in secondary reservoir should apply.
- C. All tractors:
 1. Recharge system to check for leaks.
 2. Apply service brakes and hold for 1 minute with engine idling. After initial pressure drop of 5-10 PSI, pressure drop should not exceed 4 PSI.
 3. If audible leaks or rapid pressure drops are noted, have leakage corrected before departure.
19. _____ Turn off 4-way flasher and actuate left and right turn signals. Proper operation of turn signals can be ascertained by checking front ones.
20. _____ Make a test stop before leaving yard. Drain air tanks daily. Check tires twice daily or every 100 miles.

21. _____ Use this form to report vehicle condition at end of run.